

# Compositions and methods for the simultaneous detection and quantification of multiple specific nucleic acid sequences

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Inventor:

Applicant:

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Abstract of correspondent: **EP0709466**

The invention relates to methods for simultaneously or sequentially detecting multiple nucleic acid analytes in a single medium utilizing oligonucleotide hybridization probes coupled to different chemiluminescent labeling reagents. The methods may be used in a heterogeneous, homogeneous or non-homogeneous assay system. The invention also relates to specific combinations of chemiluminescent labeling reagents suitable, when coupled to an oligonucleotide probe, for use together in methods for the detection of multiple nucleic acid analytes. The invention also concerns kits useful in these methods.

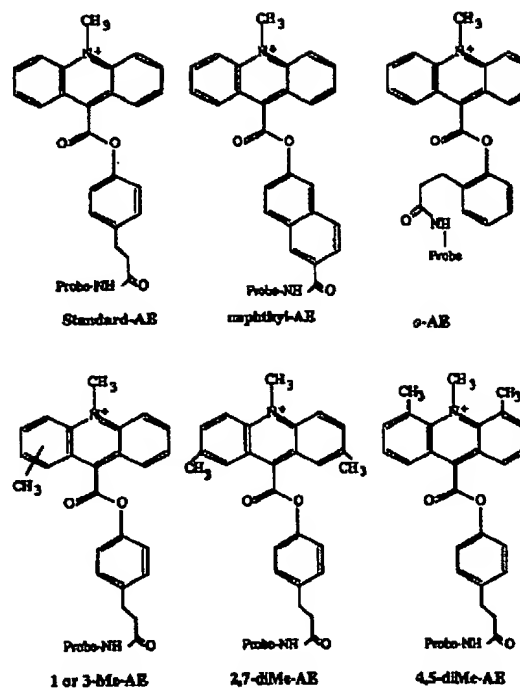


Figure 1A

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ォール・コテージ  
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最終頁に続く

(54) 【発明の名称】 複数の特定の核酸配列の同時検出および定量のための組成物および方法

(57) 【要約】

本発明は、異なる化学発光標識試薬に結合したオリゴヌクレオチドハイブリダイゼーションプローブを用いる、単一媒体中に複数の核酸分析対象の同時または逐次検出方法に関する。該方法は、異種、同種または同種でないアッセイ系に使用することができる。また本発明は、オリゴヌクレオチドプローブに結合した場合に、複数の核酸分析対象の検出方法において一緒に用いるのに適した化学発光標識試薬の特定の組み合わせにも関する。また本発明は、これらの方法に有用なキットにも関する。

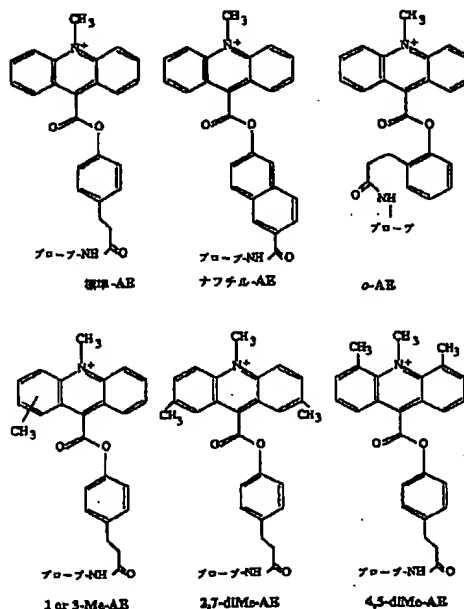


FIG. 1a.

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Basic Patent (Number,Kind,Date): EP 709466 A2 19960501

**PATENT FAMILY:**

**Australia (AU)**

Patent (Number,Kind,Date): AU 4135696 A1 19960523

Compositions and methods for the simultaneous detection and quantification of multiple specific nucleic acid sequences (English)

Patent Assignee: GEN PROBE INC

Author (Inventor): NELSON NORMAN C; WOODHEAD JAMES S; WEEKS IAN; CHEIKH AZZOUZ BEN

Priority (Number,Kind,Date): US 331107 A 19941028; WO 95US13847 W 19951025

Applic (Number,Kind,Date): AU 9641356 A 19951025

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

Language of Document: English

Patent (Number,Kind,Date): AU 9641356 A1 19960523

COMPOSITIONS AND METHODS FOR THE SIMULTANEOUS DETECTION AND QUANTIFICATION OF MULTIPLE SPECIFIC NUCLEIC ACID SEQUENCES (English)

Patent Assignee: GEN PROBE INC

Author (Inventor): NELSON NORMAN C; WOODHEAD JAMES S; WEEKS IAN; CHEIKH AZZOUZ BEN

Priority (Number,Kind,Date): US 331107 A 19941028; WO 95US13847 W 19951025

Applic (Number,Kind,Date): AU 9641356 A 19951025

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

CA Abstract No: \* 125(01)002954N

Derwent WPI Acc No: \* C 96-211031

Language of Document: English

Patent (Number,Kind,Date): AU 710884 B2 19990930

Compositions and methods for the simultaneous detection and quantification of multiple specific nucleic acid sequences (English)

Patent Assignee: GEN PROBE INC

Author (Inventor): NELSON NORMAN C; WOODHEAD JAMES S; WEEKS IAN; CHEIKH AZZOUZ BEN

Priority (Number,Kind,Date): US 331107 A 19941028; WO 95US13847 W 19951025

Applic (Number,Kind,Date): AU 9641356 A 19951025

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

Language of Document: English

**Canada (CA)**

Patent (Number,Kind,Date): CA 2201595 AA 19960509

COMPOSITIONS AND METHODS FOR THE SIMULTANEOUS DETECTION AND QUANTIFICATION OF MULTIPLE SPECIFIC NUCLEIC ACID SEQUENCES COMPOSITIONS ET PROCEDES DE DETECTION ET DE QUANTIFICATION SIMULTANES DE SEQUENCES SPECIFIQUES MULTIPLES D'ACIDE NUCLEIQUE (English; French)

Patent Assignee: GEN PROBE INC (US)

Author (Inventor): WEEKS IAN (GB); CHEIKH AZZOUZ BEN (US); WOODHEAD JAMES S (GB); NELSON NORMAN C (US)

Priority (Number,Kind,Date): US 331107 A 19941028; WO 95US13847 W 19951025

Applic (Number,Kind,Date): CA 2201595 A 19951025

IPC: \* C12Q-001/68; C07H-021/00; C12Q-001/04; C12Q-001/70; G01N-021/76

Language of Document: English

Patent (Number,Kind,Date): CA 2201595 C 20030819

COMPOSITIONS AND METHODS FOR THE SIMULTANEOUS DETECTION AND  
QUANTIFICATION OF MULTIPLE SPECIFIC NUCLEIC ACID SEQUENCES COMPOSITIONS ET  
PROCEDES DE DETECTION ET DE QUANTIFICATION SIMULTANEEES DE SEQUENCES  
SPECIFIQUES MULTIPLES D'ACIDE NUCLEIQUE (English; French)

Patent Assignee: GEN PROBE INC (US)

Author (Inventor): WOODHEAD JAMES S (GB); WEEKS IAN (GB); CHEIKH AZZOUZ  
BEN (US); NELSON NORMAN C (US)

Priority (Number,Kind,Date): US 331107 A 19941028; WO 95US13847 W 19951025

Applic (Number,Kind,Date): CA 2201595 A 19951025

IPC: \* C12Q-001/68; C07H-021/00; C12Q-001/04; C12Q-001/70; G01N-021/76

Language of Document: English

#### Canada (CA) - Legal Status

Number	Type	Date	Code	Text
CA 2201595 P		19970402	CA REFW	CORRESPONDS TO PCT APPLICATION (ENTSPRICHT PCT ANMELDUNG) WO 9613612 P
CA 2201595 P		20030403	CA AFNE	NATIONAL PHASE ENTRY DATE: 19970402
CA 2201595 P		20030403	CA EEER	EXAMINATION REQUEST DATE: 19970812

#### European Patent Office (EP)

Patent (Number,Kind,Date): EP 709466 A2 19960501

Compositions and methods for the simultaneous detection and quantification of multiple  
specific nucleic acid sequences Compositions et procedes pour la detection et quantification  
simultanee de plusieurs sequences d'acide nucleique Zusammensetzungen und Verfahren fur die  
gleichzeitige Detektion und Quantifizierung von einer Mehrheit spezifischer Nuklein Saure  
Sequenzen (English; French; German)

Patent Assignee: GEN PROBE INC (US)

Author (Inventor): NELSON NORMAN C (US); WOODHEAD JAMES S (GB); WEEKS  
IAN (GB); CHEIKH AZZOUZ BEN (US)

Priority (Number,Kind,Date): US 331107 A 19941028

Applic (Number,Kind,Date): EP 95116199 A 19951013

Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

Language of Document: English

Patent (Number,Kind,Date): EP 709466 A3 19960612

Patent Assignee: GEN PROBE INC

Priority (Number,Kind,Date): US 331107 A 19941028

Applic (Number,Kind,Date): EP 95116199 A 19951013

Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

Language of Document: English

#### European Patent Office (EP) - Legal Status

Number	Type	Date	Code	Text
EP 709466 P		19941028	EP AA	PRIORITY (PATENT APPLICATION)

(PRIORITAET (PATENTANMELDUNG))  
 US 331107 A 19941028

EP 709466 P 19951013 EP AE EP-APPLICATION  
 (EUROPAEISCHE ANMELDUNG)  
 EP 95116199 A 19951013

EP 709466 P 19960501 EP AK DESIGNATED CONTRACTING STATES IN AN  
 APPLICATION WITHOUT SEARCH REPORT:  
 (IN EINER ANMELDUNG OHNE RECHERCHENBERICHT  
 BENANNTEN VERTRAGSSTAATEN)  
 AT BE CH DE DK ES FR GB IT LI LU NL SE

EP 709466 P 19960501 EP A2 PUBLICATION OF APPLICATION WITHOUT SEARCH  
 REPORT  
 (VEROEFFENTLICHUNG DER ANMELDUNG OHNE  
 RECHERCHENBERICHT)

EP 709466 P 19960612 EP AK DESIGNATED CONTRACTING STATES IN A SEARCH  
 REPORT:  
 (IN EINEM RECHERCHENBERICHT BENANNTEN  
 VERTRAGSSTAATEN)  
 AT BE CH DE DK ES FR GB IT LI LU NL SE

EP 709466 P 19960612 EP A3 SEPARATE PUBLICATION OF THE SEARCH REPORT  
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 (GESONDERTE VEROEFFENTLICHUNG DES  
 RECHERCHENBERICHTS (ART. 93))

EP 709466 P 19970212 EP 17P REQUEST FOR EXAMINATION FILED  
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 961212

EP 709466 P 19970319 EP 17Q FIRST EXAMINATION REPORT  
 (ERSTER PRUEFUNGSBESCHEID)  
 970203

EP 709466 P 19971126 EP RAP1 APPLICANT (CORRECTION)  
 (ANMELDER (KORR.))  
 GEN-PROBE INCORPORATED

#### Japan (JP)

Patent (Number,Kind,Date): JP 3190348 B2 20010723  
 Priority (Number,Kind,Date): WO 95US13847 W 19951025; US 331107 A 19941028  
 Applic (Number,Kind,Date): JP 96512779 A 19951025  
 IPC: \* C12Q-001/68; C07D-219/04  
 Language of Document: Japanese

Patent (Number,Kind,Date): JP 10507351 T2 19980721  
 Priority (Number,Kind,Date): WO 95US13847 W 19951025; US 331107 A 19941028  
 Applic (Number,Kind,Date): JP 96512779 A 19951025  
 IPC: \* C12N-015/09; C07D-219/04; C12Q-001/68  
 Language of Document: Japanese

#### United States of America (US)

Patent (Number,Kind,Date): US 5658737 A 19970819  
 Compositions and methods for the simultaneous detection and quantification of multiple  
 specific nucleic acid sequences (English)  
 Patent Assignee: GEN PROBE INC (US)  
 Author (Inventor): NELSON NORMAN CHARLES (US); WOODHEAD JAMES STUART (GB);  
 WEEKS IAN (GB); CHEIKH AZZOUZ BEN (US)

Priority (Number,Kind,Date): US 692610 A 19960806; US 442666 B1 19950517; US 331107 B1 19941028  
Applic (Number,Kind,Date): US 692610 A 19960806  
National Class: \* 435006000; 435005000; 435091100; 435091200; 252700000; 436164000; 436171000; 436174000; 436094000; 436826000; 536023100; 536024300; 536024330; 536025300; 935001000; 935016000; 935019000; 935076000; 935077000  
IPC: \* C12Q-001/68; C09K-003/00; C07H-021/04; C12N-015/00  
Language of Document: English  
Patent (Number,Kind,Date): US 5756709 A 19980526  
Compositions for the simultaneous detection and quantification of multiple specific nucleic acid sequences (English)  
Patent Assignee: GEN PROBE INC (US)  
Author (Inventor): NELSON NORMAN CHARLES (US); WOODHEAD JAMES STUART (GB); WEEKS IAN (GB); CHEIKH AZZOUZ BEN (US)  
Priority (Number,Kind,Date): US 683122 A 19960716; US 331107 B1 19941028  
Applic (Number,Kind,Date): US 683122 A 19960716  
National Class: \* 536024300; 536024320; 252700000; 435006000; 436094000; 436171000; 436805000; 935008000; 935077000  
IPC: \* C07H-021/04; C09K-003/00; C01N-033/00; C12N-015/00  
Language of Document: English  
Patent (Number,Kind,Date): US 5827656 A 19981027  
Compositions and methods for the simultaneous detection and quantification of multiple specific nucleic acid sequences (English)  
Patent Assignee: GEN PROBE INC (US)  
Author (Inventor): NELSON NORMAN CHARLES (US); WOODHEAD JAMES STUART (GB); WEEKS IAN (GB); CHEIKH AZZOUZ BEN (US)  
Priority (Number,Kind,Date): US 683124 A 19960716; US 444285 B1 19950518; US 331107 B1 19941028  
Applic (Number,Kind,Date): US 683124 A 19960716  
National Class: \* 435006000; 435091100; 252700000; 546102000; 536024300; 536024330; 536025300; 935076000; 935077000  
IPC: \* C12Q-001/68; C09K-003/00; C07H-021/04; C12N-015/00  
Language of Document: English  
Patent (Number,Kind,Date): US 5840873 A 19981124  
Labeled hybridization assay probes useful for the detection and quantification of multiple nucleic acid sequences (English)  
Patent Assignee: GEN PROBE INC (US)  
Author (Inventor): NELSON NORMAN CHARLES (US); WOODHEAD JAMES STUART (GB); WEEKS IAN (GB); CHEIKH AZZOUZ BEN (US)  
Priority (Number,Kind,Date): US 858803 A 19970519; US 683122 A1 19960716; US 331107 B1 19941028  
Applic (Number,Kind,Date): US 858803 A 19970519  
National Class: \* 536024300; 436094000; 935008000; 252700000  
IPC: \* C07H-021/02; G01N-033/00; C12N-015/00; C09K-003/00  
Language of Document: English

## United States of America (US) - Legal Status

Number	Type	Date	Code	Text
US 5658737 P		19941028	US AA	PRIORITY
				US 331107 B1 19941028
US 5658737 P		19950517	US AA	PRIORITY
				US 442666 B1 19950517
US 5658737 P		19960806	US AE	APPLICATION DATA (PATENT)

(APPL. DATA (PATENT))  
 US 692610 A 19960806

US 5658737 P 19970819 US A PATENT  
 US 5756709 P 19941028 US AA PRIORITY  
 US 331107 B1 19941028

US 5756709 P 19960716 US AE APPLICATION DATA (PATENT)  
 (APPL. DATA (PATENT))  
 US 683122 A 19960716

US 5756709 P 19980526 US A PATENT  
 US 5827656 P 19941028 US AA PRIORITY  
 US 331107 B1 19941028

US 5827656 P 19950518 US AA PRIORITY  
 US 444285 B1 19950518

US 5827656 P 19960716 US AE APPLICATION DATA (PATENT)  
 (APPL. DATA (PATENT))  
 US 683124 A 19960716

US 5827656 P 19981027 US A PATENT  
 US 5840873 P 19941028 US AA PRIORITY  
 US 331107 B1 19941028

US 5840873 P 19960716 US AA PRIORITY  
 US 683122 A1 19960716

US 5840873 P 19970519 US AE APPLICATION DATA (PATENT)  
 (APPL. DATA (PATENT))  
 US 858803 A 19970519

US 5840873 P 19981124 US A PATENT

#### World Intellectual Property Organization, PCT (WO)

Patent (Number,Kind,Date): WO 9613612 A2 19960509

COMPOSITIONS AND METHODS FOR THE SIMULTANEOUS DETECTION AND  
 QUANTIFICATION OF MULTIPLE SPECIFIC NUCLEIC ACID SEQUENCES COMPOSITIONS ET  
 PROCEDES DE DETECTION ET DE QUANTIFICATION SIMULTANEEES DE SEQUENCES  
 SPECIFIQUES MULTIPLES D'ACIDE NUCLEIQUE (English)

Patent Assignee: GEN PROBE INC (US)

Author (Inventor): NELSON NORMAN C; WOODHEAD JAMES S; WEEKS IAN; CHEIKH  
 AZZOUZ BEN

Priority (Number,Kind,Date): US 331107 A 19941028

Applic (Number,Kind,Date): WO 95US13847 A 19951025

Designated States: (National) AU; CA; JP; KR

Filing Details: WO 300000 Without international search report and to be republished upon  
 receipt of that report

IPC: \* C12Q-001/68; C07D-219/00; C07H-021/00

Language of Document: English

#### World Intellectual Property Organization, PCT (WO) - Legal Status

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WO 9613612 P	19941028	WO AA PRIORITY (PATENT)		
		US 331107 A 19941028		

WO 9613612 P	19951025	WO AE APPLICATION DATA		
		(APPL. DATA)		
		WO 95US13847 A 19951025		

WO 9613612 P	19960509 WO AK	DESIGNATED STATES CITED IN A PUBLISHED APPLICATION WITHOUT SEARCH REPORT (DESIGNATED STATES CITED IN A PUBLISHED APPL. WITHOUT SEARCH REPORT) AU CA JP KR
WO 9613612 P	19960509 WO A2	PUBLICATION OF THE INTERNATIONAL APPLICATION WITHOUT THE INTERNATIONAL SEARCH REPORT (PUB. OF THE INTERNATIONAL APPL. WITHOUT THE INTERNATIONAL SEARCH REPORT)
WO 9613612 P	19960725 WO DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE
WO 9613612 P	19970402 WO ENP	ENTRY INTO THE NATIONAL PHASE IN: CA 2201595 AA

INPADOC/Family and Legal Status

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